



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,902	06/28/2006	Tooru Serizawa	293022US2PCT	5036

22850 7590 03/17/2011
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

ARCIERO, ADAM A

ART UNIT	PAPER NUMBER
----------	--------------

1727

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

03/17/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/584,902	SERIZAWA ET AL.	
	Examiner	Art Unit	
	ADAM A. ARCIERO	1727	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 4-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1727

SEPARATOR FOR FLAT-TYPE POLYMER ELECTROLYTE FUEL CELLS

Examiner: Adam Arciero

S.N. 10/584,902

Art Unit 1727

March 11, 2011

DETAILED ACTION

1. The Applicant's amendment filed on December 27, 2010 was received. Claims 1-16 are currently pending. Claims 1-3 have been amended. Claims 15-16 are newly added. Claims 4-14 remain withdrawn from consideration.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The claim rejections under 35 U.S.C. 112, second paragraph on claims 1-3 are withdrawn, in light of Applicant's amendments to the claims.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s),

Art Unit: 1727

at the time the application was filed, had possession of the claimed invention. In newly added claim 15, the Applicant claims that the connecting hinges and the conductive substrates are made of the same material. The present specification states that the conductive substrates can be made of stainless steel, cold-rolled steel sheet, aluminum, copper and titanium ([0065]). The specification further states that the hinge can be covered with an insulating resin coating ([0068]). There is no mention of what that the hinges are made of the same material as the conductive substrates. The specification does not provide any support for these limitations. Therefore, newly added claim 15 contains new matter.

Claim Rejections - 35 USC § 102

6. The claim rejections under 35 U.S.C. 102(b) as being unpatentable over Maeda et al. on claim 1 is maintained.

As to Claim 1, Maeda et al. discloses a separator for a flat-type polymer electrolyte fuel cell comprising unit cells arrayed in flat configuration, having both a fuel-feed side separator and an oxygen-feed side separator (Fig. 6b). Maeda et al. further discloses wherein said separators comprise collector portions having a plurality of conductive substrates **10** arrayed in a flat configuration via gaps **16** (Fig. 2b). Furthermore, said separators comprise a pair of insulating frames which sandwich the collector portions therebetween (Fig. 12). Said gap **16** clearly separates the collector portion into separate conductive substrates. Said conductive substrates of the fuel side separator and oxygen side separator are joined together by means of a connecting hinge **41** (Fig. 6c). The claim requires for (n-1) connecting hinges wherein n is equal to 2 or more. Therefore, the claim requires there to be one connecting hinge for connecting the

Art Unit: 1727

separators. Maeda et al. further discloses connecting hinges **61,62** for connecting separators (Fig. 10d and col. 5, lines 9-48).

As to Claim 16, it is noted that the claim is a product-by-process claim. “Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

7. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. and Hayashi on claim 3 is maintained.

As to Claim 3, Maeda et al. does not specifically disclose wherein the unit conductive substrates that form the collector portion in the fuel and oxygen side separators, comprise electrode terminals which are positioned at ends of the respective array directions and to which the connecting hinges are not connected.

However, Hayashi et al. discloses a fuel cell comprising fuel and oxygen side separators, each including terminals which are not in connection with any connecting hinges (paragraph [0110] and Fig. 2). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the fuel cell separators of Maeda et al. with terminals, because Hayashi et al. teaches that a closed circuit for outputting power of the fuel cell is formed via said terminals and a vehicle and external load can be driven by said power outputted from said

Art Unit: 1727

terminals (paragraph [0110]). Furthermore, according to MPEP 2144.04, the placement for the terminals on the separator is just a simple rearrangement of parts which would not have modified the operation of the prior art device disclosed by Maeda et al. and Hayashi et al.; “In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device).”

Allowable Subject Matter

8. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 2 is allowable over the prior art because the closest prior arts of record, Maeda et al. and Hayashi et al. do not teach or suggest a fuel cell stack comprising unit cells having a fuel and oxygen side separators, wherein said separators comprise at a corner a lug member that juts toward an adjoining unit conductive substrate, the second to nth unit conductive substrates of another separator each include at a corner a cutout that is in alignment with said lug member of a unit conductive substrate adjacent to an upstream side of the array direction and configured in such a way as to form a gap with said lug member, wherein at the lug members a hinge is provided that juts in a direction orthogonal to the array direction of the unit conductive substrates and the second to nth unit conductive substrates of another separator are joined to said lug members by means of the connecting hinges.

Response to Arguments

9. Applicant's arguments with respect to claims 1-4 have been considered but are not persuasive.

Applicant's principle arguments are:

- a) Maeda does not disclose a hinge but rather a conductive paste (claim 1).
- b) Maeda does not disclose (n-1) connecting members (claim 1)..

In response to Applicant's arguments, please consider the following comments:

- a) A connecting hinge is not a technology specific term with a definite meaning.

Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. See In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d, 1320, 1322 (fed. Cir. 1989). Maeda et al. discloses a couple connecting members which can be read as connecting hinges, as described above in the rejection.

- b) Maeda et al. does disclose n-1 connecting hinges. The claim requires n to be equal to 2 or more. Therefore; $2 - 1 = 1$ connecting hinges, at least.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM A. ARCIERO whose telephone number is (571)270-5116. The examiner can normally be reached on Monday to Friday 7am to 4pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1727

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Adam A Arciero/
Examiner, Art Unit 1727

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1727